



SEQUENCE LISTING

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<120> GLUT-1 AS A RECEPTOR FOR HTLV ENVELOPES AND ITS USES

<130> 0508-1149

<140> 10/555,289
<141> 2005-11-02

<150> PCT/EP2004/004624
<151> 2004-04-30

<150> EP 03291067.1
<151> 2003-05-02

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<170> PatentIn Ver. 3.3

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Ile Asn Ala Pro Gln Lys Val Ile Glu Glu Phe Tyr Asn Gln Thr Trp
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gtc cac cgc tat ggg gag agc atc ctg ccc acc acg ctc acc acg ctc 192
Val His Arg Tyr Gly Glu Ser Ile Leu Pro Thr Thr Leu Thr Thr Leu
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Trp Ser Leu Ser Val Ala Ile Phe Ser Val Gly Gly Met Ile Gly Ser
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100 105 110	
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165 170 175	
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180 185 190	
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260 265 270	
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Gln Pro Val Tyr Ala Thr Ile Gly Ser Gly Ile Val Asn Thr Ala Phe	
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Thr Val Val Ser Leu Phe Val Val Glu Arg Ala Gly Arg Arg Thr Leu	
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His Leu Ile Gly Leu Ala Gly Met Ala Gly Cys Ala Ile Leu Met Thr	
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 50 55 60

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 65 70 75 80

Phe Ser Val Gly Leu Phe Val Asn Arg Phe Gly Arg Arg Asn Ser Met
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Ser Lys Leu Gly Lys Ser Phe Glu Met Leu Ile Leu Gly Arg Phe Ile
 115 120 125

Ile Gly Val Tyr Cys Gly Leu Thr Thr Gly Phe Val Pro Met Tyr Val
 130 135 140

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 145 150 155 160

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Asp Ser Ile Met Gly Asn Lys Asp Leu Trp Pro Leu Leu Leu Ser Ile
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 195 200 205

Glu Ser Pro Arg Phe Leu Leu Ile Asn Arg Asn Glu Glu Asn Arg Ala
 210 215 220

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Leu Gln Glu Met Lys Glu Glu Ser Arg Gln Met Met Arg Glu Lys Lys
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Gln Pro Val Tyr Ala Thr Ile Gly Ser Gly Ile Val Asn Thr Ala Phe
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 340 345 350

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<222> (1)..(924)

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ctc atc ctc ggt gat tac agc ccc agc tgc tgt act ctc aca att gga 96
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gtc tcc tca tac cac tct aaa ccc tgc aat cct gcc cag cca gtt tgt 144
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Ser Leu Tyr Leu Phe Pro His Trp Ile Lys Lys Pro Asn Arg Asn Gly	
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His Ser Asn Leu Asp His Ile Leu Glu Pro Ser Ile Pro Trp Lys Ser	
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Cys Ile Val Cys Ile Asp Arg Ala Ser Leu Ser Thr Trp His Val Leu	
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Asn Thr Glu Pro Ser Gln Leu Pro Pro Thr Ala Pro Pro Leu Leu Pro	
180 185 190	
His Ser Asn Leu Asp His Ile Leu Glu Pro Ser Ile Pro Trp Lys Ser	
195 200 205	

Lys Leu Leu Thr Leu Val Gln Leu Thr Leu Gln Ser Thr Asn Tyr Thr
210 215 220

Cys Ile Val Cys Ile Asp Arg Ala Ser Leu Ser Thr Trp His Val Leu
225 230 235 240

Tyr Ser Pro Asn Val Ser Val Pro Ser Ser Ser Ser Thr Pro Leu Leu
245 250 255

Tyr Pro Ser Leu Ala Leu Pro Ala Pro His Leu Thr Leu Pro Phe Asn
260 265 270

Trp Thr His Cys Phe Asp Pro Gln Ile Gln Ala Ile Val Ser Ser Pro
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cac tcc agc ccc tgt agc cca acc caa ccc gtc tgc acg tgg aac ctc 144
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Ser Pro Ser Tyr Asn Asp Pro Cys Ser Leu Gln Cys Pro Tyr Leu Gly	
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Cys Gln Ser Trp Thr Cys Pro Tyr Thr Gly Pro Val Ser Ser Pro Ser	
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Trp Lys Phe His Ser Asp Val Asn Phe Thr Gln Glu Val Ser Gln Val	
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Ser Leu Arg Leu His Phe Ser Lys Cys Gly Ser Ser Met Thr Leu Leu	
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Val Asp Ala Pro Gly Tyr Asp Pro Leu Trp Phe Ile Thr Ser Glu Pro	
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Glu His Val Leu Thr Pro Ser Thr Ser Trp Thr Lys Met Leu Lys	
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Phe Ile Gln Leu Thr Leu Gln Ser Thr Asn Tyr Ser Cys Met Val Cys	
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Val Asp Arg Ser Ser Leu Ser Ser Trp His Val Leu Tyr Thr Pro Asn	
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Ile Ser Ile Pro Gln Gln Thr Ser Ser Arg Thr Ile Leu Phe Pro Ser	
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Leu Ala Leu Pro Ala Pro Pro Phe Gln Pro Phe Pro Trp Thr His Cys	
260 265 270	
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Tyr Gln Pro Arg Leu Gln Ala Ile Thr Thr Asp Asp Cys Asn Asn Ser	
275 280 285	
att atc ctc ccc cct ttt tcc ctc gcc ccc gta cct cct ccg gcg aca	912
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Glu	His	Val	Leu	Thr	Pro	Ser	Thr	Ser	Trp	Thr	Thr	Lys	Met	Leu	Lys
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Tyr	Gln	Pro	Arg	Leu	Gln	Ala	Ile	Thr	Thr	Asp	Asp	Cys	Asn	Asn	Ser
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 <213> Simian T-cell lymphotropic virus type 1

<220>
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Val Ser Ser Tyr Leu Ser Lys Pro Cys Asn Pro Ala Gln Pro Val Cys	
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Pro Pro Cys Pro Asn Leu Val Ser Tyr Ser Ser Tyr His Ala Thr Tyr	
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Ser Leu Tyr Leu Phe Pro His Trp Ile Lys Lys Pro Asn Arg Asn Gly	
85 90 95	
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Gly Gly Tyr Tyr Ser Ala Ser Tyr Ser Asp Pro Cys Ser Leu Lys Cys	
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Pro Tyr Leu Gly Cys Gln Ser Trp Thr Cys Pro Tyr Thr Gly Val Val	
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Phe Ser Leu Leu Ile Asp Ala Pro Gly Tyr Asp Pro Ile Trp Phe Leu	
165 170 175	
aat acc gaa ccc agc caa ctg cct ccc acc gcc cct cct cta ctc ccc	576
Asn Thr Glu Pro Ser Gln Leu Pro Pro Thr Ala Pro Pro Leu Leu Pro	
180 185 190	

cac tct aac ctg gac cac atc ctc gag ccc tct ata cca tgg aaa tca	624
His Ser Asn Leu Asp His Ile Leu Glu Pro Ser Ile Pro Trp Lys Ser	
195 200 205	
aaa ctt ctg act ctt gtc cag cta acc cta caa agc act aat tac act	672
Lys Leu Leu Thr Leu Val Gln Leu Thr Leu Gln Ser Thr Asn Tyr Thr	
210 215 220	
tgc atc gtc tgt ata gac cgt gcc agc ctc tct act tgg cat gtc ctg	720
Cys Ile Val Cys Ile Asp Arg Ala Ser Leu Ser Thr Trp His Val Leu	
225 230 235 240	
tac tct ccc aac gtc tct gtt ccg tcc tct tct acc ccc ctc ctt	768
Tyr Ser Pro Asn Val Ser Val Pro Ser Ser Ser Thr Pro Leu Leu	
245 250 255	
tac ccg tcg tta gcg ctt cca gct ccc cac ctg acg cta cca ttt aac	816
Tyr Pro Ser Leu Ala Leu Pro Ala Pro His Leu Thr Leu Pro Phe Asn	
260 265 270	
tgg acc cac tgc ttt gac ccc cag att caa gct ata gtc tcc tcc ccc	864
Trp Thr His Cys Phe Asp Pro Gln Ile Gln Ala Ile Val Ser Ser Pro	
275 280 285	
tgt cat aac tcc ctc atc ctg ccc ccc ttt tcc ttg tca cct gtt ccc	912
Cys His Asn Ser Leu Ile Leu Pro Pro Phe Ser Leu Ser Pro Val Pro	
290 295 300	
acc cta gga tcc cgc tcc cgc cga gcg gta ccg gtg gcg gtc tgg ctt	960
Thr Leu Gly Ser Arg Ser Arg Arg Ala Val Pro Val Ala Val Trp Leu	
305 310 315 320	
gtc tcc gcc ctg gcc atg gga gcc gga att gct ggc ggg att acc ggc	1008
Val Ser Ala Leu Ala Met Gly Ala Gly Ile Ala Gly Gly Ile Thr Gly	
325 330 335	
tcc atg tcc ctc gcc tca gga aag agc ctc cta cat gag gtg gac aaa	1056
Ser Met Ser Leu Ala Ser Gly Lys Ser Leu Leu His Glu Val Asp Lys	
340 345 350	
gat att tcc caa tta act caa gca ata gtc aaa aac cac aaa aat cta	1104
Asp Ile Ser Gln Leu Thr Gln Ala Ile Val Lys Asn His Lys Asn Leu	
355 360 365	
ctc aaa att gca cag tat gct gcc cag aac agg cga ggc ctt gat ctc	1152
Leu Lys Ile Ala Gln Tyr Ala Ala Gln Asn Arg Arg Gly Leu Asp Leu	
370 375 380	
ctg ttc tgg gag caa gga gga tta tgc aaa gca tta caa gaa cag tgc	1200
Leu Phe Trp Glu Gln Gly Gly Leu Cys Lys Ala Leu Gln Glu Gln Cys	
385 390 395 400	
tgt ttt cta aat att acc aat tcc cat gtc tca ata cta caa gaa aga	1248
Cys Phe Leu Asn Ile Thr Asn Ser His Val Ser Ile Leu Gln Glu Arg	
405 410 415	

ccc ccc ctt gag aat cga gtc ctc act ggc tgg ggc ctt aac tgg gac	1296
Pro Pro Leu Glu Asn Arg Val Leu Thr Gly Trp Gly Leu Asn Trp Asp	
420 425 430	
ctt ggc ctc tca cag tgg gct cga gag gcc tta caa act ggg atc acc	1344
Leu Gly Leu Ser Gln Trp Ala Arg Glu Ala Leu Gln Thr Gly Ile Thr	
435 440 445	
ctt gtt gca cta ctc ctt ctc gtt atc ctt gca gga cca tgc atc ctc	1392
Leu Val Ala Leu Leu Leu Val Ile Leu Ala Gly Pro Cys Ile Leu	
450 455 460	
cgt cag ctg cga cac ctc ccc tcg cgc gtc aga tac ccc cat tat tct	1440
Arg Gln Leu Arg His Leu Pro Ser Arg Val Arg Tyr Pro His Tyr Ser	
465 470 475 480	
ctt ata aac cct gag tca tcc ctg taa	1467
Leu Ile Asn Pro Glu Ser Ser Leu	
485	

<210> 8	
<211> 488	
<212> PRT	
<213> Simian T-cell lymphotropic virus type 1	
<400> 8	
Met Gly Lys Phe Leu Ala Thr Leu Ile Leu Phe Phe Gln Phe Cys Pro	
1 5 10 15	
Leu Ile Leu Gly Asp Tyr Ser Pro Ser Cys Cys Thr Leu Thr Ile Gly	
20 25 30	
Val Ser Ser Tyr Leu Ser Lys Pro Cys Asn Pro Ala Gln Pro Val Cys	
35 40 45	
Ser Trp Thr Leu Asp Leu Leu Ala Leu Ser Ala Asp Gln Ala Leu Gln	
50 55 60	
Pro Pro Cys Pro Asn Leu Val Ser Tyr Ser Ser Tyr His Ala Thr Tyr	
65 70 75 80	
Ser Leu Tyr Leu Phe Pro His Trp Ile Lys Lys Pro Asn Arg Asn Gly	
85 90 95	
Gly Gly Tyr Tyr Ser Ala Ser Tyr Ser Asp Pro Cys Ser Leu Lys Cys	
100 105 110	
Pro Tyr Leu Gly Cys Gln Ser Trp Thr Cys Pro Tyr Thr Gly Val Val	
115 120 125	
Ser Ser Pro Tyr Trp Lys Phe Gln Gln Asp Val Asn Phe Thr Gln Glu	
130 135 140	
Val Ser His Leu Asn Ile Asn Leu His Phe Ser Lys Cys Gly Phe Pro	
145 150 155 160	

Phe Ser Leu Leu Ile Asp Ala Pro Gly Tyr Asp Pro Ile Trp Phe Leu
 165 170 175
 Asn Thr Glu Pro Ser Gln Leu Pro Pro Thr Ala Pro Pro Leu Leu Pro
 180 185 190
 His Ser Asn Leu Asp His Ile Leu Glu Pro Ser Ile Pro Trp Lys Ser
 195 200 205
 Lys Leu Leu Thr Leu Val Gln Leu Thr Leu Gln Ser Thr Asn Tyr Thr
 210 215 220
 Cys Ile Val Cys Ile Asp Arg Ala Ser Leu Ser Thr Trp His Val Leu
 225 230 235 240
 Tyr Ser Pro Asn Val Ser Val Pro Ser Ser Ser Thr Pro Leu Leu
 245 250 255
 Tyr Pro Ser Leu Ala Leu Pro Ala Pro His Leu Thr Leu Pro Phe Asn
 260 265 270
 Trp Thr His Cys Phe Asp Pro Gln Ile Gln Ala Ile Val Ser Ser Pro
 275 280 285
 Cys His Asn Ser Leu Ile Leu Pro Pro Phe Ser Leu Ser Pro Val Pro
 290 295 300
 Thr Leu Gly Ser Arg Ser Arg Arg Ala Val Pro Val Ala Val Trp Leu
 305 310 315 320
 Val Ser Ala Leu Ala Met Gly Ala Gly Ile Ala Gly Gly Ile Thr Gly
 325 330 335
 Ser Met Ser Leu Ala Ser Gly Lys Ser Leu Leu His Glu Val Asp Lys
 340 345 350
 Asp Ile Ser Gln Leu Thr Gln Ala Ile Val Lys Asn His Lys Asn Leu
 355 360 365
 Leu Lys Ile Ala Gln Tyr Ala Ala Gln Asn Arg Arg Gly Leu Asp Leu
 370 375 380
 Leu Phe Trp Glu Gln Gly Gly Leu Cys Lys Ala Leu Gln Glu Gln Cys
 385 390 395 400
 Cys Phe Leu Asn Ile Thr Asn Ser His Val Ser Ile Leu Gln Glu Arg
 405 410 415
 Pro Pro Leu Glu Asn Arg Val Leu Thr Gly Trp Gly Leu Asn Trp Asp
 420 425 430
 Leu Gly Leu Ser Gln Trp Ala Arg Glu Ala Leu Gln Thr Gly Ile Thr
 435 440 445
 Leu Val Ala Leu Leu Leu Val Ile Leu Ala Gly Pro Cys Ile Leu
 450 455 460

Arg Gln Leu Arg His Leu Pro Ser Arg Val Arg Tyr Pro His Tyr Ser
 465 470 475 480

Leu Ile Asn Pro Glu Ser Ser Leu
 485

<210> 9
 <211> 1461
 <212> DNA
 <213> Simian T-cell lymphotropic virus type 2

<220>
 <221> CDS
 <222> (1)...(1461)

<400> 9
 atg ggt aag ata att gct ttc ctt tta ttc cat ctt aca tgt atc aca 48
 Met Gly Lys Ile Ile Ala Phe Leu Leu Phe His Leu Thr Cys Ile Thr
 1 5 10 15
 atc act aaa cag agc cgg tgc acg ctt acg gta ggt gtc tcc tcg tat 96
 Ile Thr Lys Gln Ser Arg Cys Thr Leu Thr Val Gly Val Ser Ser Tyr
 20 25 30
 cac tct agt ccc tgc agt ctt gcc caa cct atc tgc acc tgg gat ctc 144
 His Ser Ser Pro Cys Ser Leu Ala Gln Pro Ile Cys Thr Trp Asp Leu
 35 40 45
 gac ctt cat tcc tta act aca gac caa cgt ctg tac cct cca tgc ccc 192
 Asp Leu His Ser Leu Thr Thr Asp Gln Arg Leu Tyr Pro Pro Cys Pro
 50 55 60
 aat cta gtt tct tac tct aac ttc cac aag tcc tac tcc tta tat ttg 240
 Asn Leu Val Ser Tyr Ser Asn Phe His Lys Ser Tyr Ser Leu Tyr Leu
 65 70 75 80
 ttc ccg cac tgg gta aaa aag cca aat aga caa ggc ctg gga tac tat 288
 Phe Pro His Trp Val Lys Lys Pro Asn Arg Gln Gly Leu Gly Tyr Tyr
 85 90 95
 tct gca tcc tac agc gac ccc tgc tcg ctc cag tgc cct tat tta gga 336
 Ser Ala Ser Tyr Ser Asp Pro Cys Ser Leu Gln Cys Pro Tyr Leu Gly
 100 105 110
 agc cag tct tgg aca tgc cct tac acc ggc ccc atc tcc agc ccg tct 384
 Ser Gln Ser Trp Thr Cys Pro Tyr Thr Gly Pro Ile Ser Ser Pro Ser
 115 120 125
 tgg agg ttc cac cga gat gtt aac ttc acc caa gag gtc aac cat gta 432
 Trp Arg Phe His Arg Asp Val Asn Phe Thr Gln Glu Val Asn His Val
 130 135 140
 acc ctc cgg cta cac ttc tcc cga tgt ggc tct tct atg acc ctc ctc 480
 Thr Leu Arg Leu His Phe Ser Arg Cys Gly Ser Ser Met Thr Leu Leu
 145 150 155 160

ata gac gcc cca ggc tac gac ccc ctg tgg ttc atc tct tcg gaa ccc	528
Ile Asp Ala Pro Gly Tyr Asp Pro Leu Trp Phe Ile Ser Ser Glu Pro	
165 170 175	
act cag ccc ccc ccc act tcc cca cca tta gtc cgc gac tct gac ctt	576
Thr Gln Pro Pro Pro Thr Ser Pro Pro Leu Val Arg Asp Ser Asp Leu	
180 185 190	
gaa cat atc tta acc ccc tcc tcc tcc tgg gct act agg atg cta acc	624
Glu His Ile Leu Thr Pro Ser Ser Ser Trp Ala Thr Arg Met Leu Thr	
195 200 205	
ctc atc caa cta act cta caa agt acc aat tat tct tgc atg gtt tgt	672
Leu Ile Gln Leu Thr Leu Gln Ser Thr Asn Tyr Ser Cys Met Val Cys	
210 215 220	
ata gac aga acc agc ttg tcg tcc tgg cac gta ctc tat acc cct aat	720
Ile Asp Arg Thr Ser Leu Ser Ser Trp His Val Leu Tyr Thr Pro Asn	
225 230 235 240	
atc tct gcc tca cct ggg ggc gac tcc ttg cct ata ctt tat ccc tcc	768
Ile Ser Ala Ser Pro Gly Gly Asp Ser Leu Pro Ile Leu Tyr Pro Ser	
245 250 255	
ttg gcc cta ccg gcc ccc caa ccc cag ccg ttt tcc tgg tct cac tgt	816
Leu Ala Leu Pro Ala Pro Gln Pro Gln Pro Phe Ser Trp Ser His Cys	
260 265 270	
tac cag ccc cac cta cag gca gta act aca gcc aat tgc aac aat tcc	864
Tyr Gln Pro His Leu Gln Ala Val Thr Thr Ala Asn Cys Asn Asn Ser	
275 280 285	
att gtc ctg ccc cca ttc tct ctc acc ccg gtg cct tcc cct ggg aca	912
Ile Val Leu Pro Pro Phe Ser Leu Thr Pro Val Pro Ser Pro Gly Thr	
290 295 300	
aga agc cgc cggtt att cca gtg gct gta tgg ctc gtc tca gcc cta	960
Arg Ser Arg Arg Ala Ile Pro Val Ala Val Trp Leu Val Ser Ala Leu	
305 310 315 320	
gcg gcc ggg act ggt att gca ggg gga ata acc gga tcc ctg tcc cta	1008
Ala Ala Gly Thr Gly Ile Ala Gly Gly Ile Thr Gly Ser Leu Ser Leu	
325 330 335	
gca tca agc cgc agc ctg ctt ttt gaa gtt gac aaa gat att tcc cac	1056
Ala Ser Ser Arg Ser Leu Leu Phe Glu Val Asp Lys Asp Ile Ser His	
340 345 350	
ctc aca caa gcc atc gtt aaa aac cat caa aac atc ctc cgc gta gca	1104
Leu Thr Gln Ala Ile Val Lys Asn His Gln Asn Ile Leu Arg Val Ala	
355 360 365	
caa tat gca gcc caa aat aga aga gga cta gac ctc ctg ttt tgg gaa	1152
Gln Tyr Ala Ala Gln Asn Arg Arg Gly Leu Asp Leu Leu Phe Trp Glu	
370 375 380	

caa gga ggc ctc tgc aaa gcc ata caa gag caa tgt tgc ttc ctt aac	1200
Gln Gly Gly Leu Cys Lys Ala Ile Gln Glu Gln Cys Cys Phe Leu Asn	
385 390 395 400	
atc agc aac acc cat gtg tcc gtc ctt cag gag cgc ccc ccc ctg gaa	1248
Ile Ser Asn Thr His Val Ser Val Leu Gln Glu Arg Pro Pro Leu Glu	
405 410 415	
aag aga gtc atc aca gga tgg ggt ctc aac tgg gac cta ggg cta tcc	1296
Lys Arg Val Ile Thr Gly Trp Gly Leu Asn Trp Asp Leu Gly Leu Ser	
420 425 430	
caa tgg gca cgg gaa gca ctc caa act ggt ata acc atc cta gcc ttg	1344
Gln Trp Ala Arg Glu Ala Leu Gln Thr Gly Ile Thr Ile Leu Ala Leu	
435 440 445	
ctc ctc ctt gtc ata ctg ttc ggt cct tgt atc ctt cgc caa ctc caa	1392
Leu Leu Leu Val Ile Leu Phe Gly Pro Cys Ile Leu Arg Gln Leu Gln	
450 455 460	
tca ctt ccc cac cgg cta cag aac agg cac aac caa tac tct ctt att	1440
Ser Leu Pro His Arg Leu Gln Asn Arg His Asn Gln Tyr Ser Leu Ile	
465 470 475 480	
aac cag gaa acc aca cta taa	1461
Asn Gln Glu Thr Thr Leu	
485	

<210> 10

<211> 486

<212> PRT

<213> Simian T-cell lymphotropic virus type 2

<400> 10

Met Gly Lys Ile Ile Ala Phe Leu Leu Phe His Leu Thr Cys Ile Thr	
1 5 10 15	

Ile Thr Lys Gln Ser Arg Cys Thr Leu Thr Val Gly Val Ser Ser Tyr	
20 25 30	

His Ser Ser Pro Cys Ser Leu Ala Gln Pro Ile Cys Thr Trp Asp Leu	
35 40 45	

Asp Leu His Ser Leu Thr Thr Asp Gln Arg Leu Tyr Pro Pro Cys Pro	
50 55 60	

Asn Leu Val Ser Tyr Ser Asn Phe His Lys Ser Tyr Ser Leu Tyr Leu	
65 70 75 80	

Phe Pro His Trp Val Lys Lys Pro Asn Arg Gln Gly Leu Gly Tyr Tyr	
85 90 95	

Ser Ala Ser Tyr Ser Asp Pro Cys Ser Leu Gln Cys Pro Tyr Leu Gly	
100 105 110	

Ser Gln Ser Trp Thr Cys Pro Tyr Thr Gly Pro Ile Ser Ser Pro Ser	
115 120 125	

Trp Arg Phe His Arg Asp Val Asn Phe Thr Gln Glu Val Asn His Val
 130 135 140

Thr Leu Arg Leu His Phe Ser Arg Cys Gly Ser Ser Met Thr Leu Leu
 145 150 155 160

Ile Asp Ala Pro Gly Tyr Asp Pro Leu Trp Phe Ile Ser Ser Glu Pro
 165 170 175

Thr Gln Pro Pro Pro Thr Ser Pro Pro Leu Val Arg Asp Ser Asp Leu
 180 185 190

Glu His Ile Leu Thr Pro Ser Ser Ser Trp Ala Thr Arg Met Leu Thr
 195 200 205

Leu Ile Gln Leu Thr Leu Gln Ser Thr Asn Tyr Ser Cys Met Val Cys
 210 215 220

Ile Asp Arg Thr Ser Leu Ser Ser Trp His Val Leu Tyr Thr Pro Asn
 225 230 235 240

Ile Ser Ala Ser Pro Gly Gly Asp Ser Leu Pro Ile Leu Tyr Pro Ser
 245 250 255

Leu Ala Leu Pro Ala Pro Gln Pro Gln Pro Phe Ser Trp Ser His Cys
 260 265 270

Tyr Gln Pro His Leu Gln Ala Val Thr Thr Ala Asn Cys Asn Asn Ser
 275 280 285

Ile Val Leu Pro Pro Phe Ser Leu Thr Pro Val Pro Ser Pro Gly Thr
 290 295 300

Arg Ser Arg Arg Ala Ile Pro Val Ala Val Trp Leu Val Ser Ala Leu
 305 310 315 320

Ala Ala Gly Thr Gly Ile Ala Gly Gly Ile Thr Gly Ser Leu Ser Leu
 325 330 335

Ala Ser Ser Arg Ser Leu Leu Phe Glu Val Asp Lys Asp Ile Ser His
 340 345 350

Leu Thr Gln Ala Ile Val Lys Asn His Gln Asn Ile Leu Arg Val Ala
 355 360 365

Gln Tyr Ala Ala Gln Asn Arg Arg Gly Leu Asp Leu Leu Phe Trp Glu
 370 375 380

Gln Gly Gly Leu Cys Lys Ala Ile Gln Glu Gln Cys Cys Phe Leu Asn
 385 390 395 400

Ile Ser Asn Thr His Val Ser Val Leu Gln Glu Arg Pro Pro Leu Glu
 405 410 415

Lys Arg Val Ile Thr Gly Trp Gly Leu Asn Trp Asp Leu Gly Leu Ser
 420 425 430

Gln Trp Ala Arg Glu Ala Leu Gln Thr Gly Ile Thr Ile Leu Ala Leu
 435 440 445

Leu Leu Leu Val Ile Leu Phe Gly Pro Cys Ile Leu Arg Gln Leu Gln
 450 455 460

Ser Leu Pro His Arg Leu Gln Asn Arg His Asn Gln Tyr Ser Leu Ile
 465 470 475 480

Asn Gln Glu Thr Thr Leu
 485

<210> 11
 <211> 930
 <212> DNA
 <213> Simian T-cell lymphotropic virus type 3

<220>
 <221> CDS
 <222> (1)...(930)

<400> 11	48
atg ggt aag ttt ggc ctt tat tgt ctt gtt cac ctt tac ata ctt ctc	
Met Gly Lys Phe Gly Leu Tyr Cys Leu Val His Leu Tyr Ile Leu Leu	
1 5 10 15	
cct gcc tcc tct ggc aat ccc agt cggt tgc acc ctg ttc ata ggg gcc	96
Pro Ala Ser Ser Gly Asn Pro Ser Arg Cys Thr Leu Phe Ile Gly Ala	
20 25 30	
tct tcc tac cac tcc agc cct tgc ggg tcc agc ctc cca cggt tgt acc	144
Ser Ser Tyr His Ser Ser Pro Cys Gly Ser Ser Leu Pro Arg Cys Thr	
35 40 45	
tgg aat ctt gac cta ttc tcc ctc acg aaa gat caa agc cta agc ccc	192
Trp Asn Leu Asp Leu Phe Ser Leu Thr Lys Asp Gln Ser Leu Ser Pro	
50 55 60	
cca tgt cca gac tta att act tac tca caa tac cac aag ccc tac tcc	240
Pro Cys Pro Asp Leu Ile Thr Tyr Ser Gln Tyr His Lys Pro Tyr Ser	
65 70 75 80	
ctg tat gta ttc cct cat tgg ata act aaa cct aac cgc cggt ggc tta	288
Leu Tyr Val Phe Pro His Trp Ile Thr Lys Pro Asn Arg Arg Gly Leu	
85 90 95	
ggc tac tat tcc gct tcc tac tca gac ccc tgt gcc ata cag tgc cct	336
Gly Tyr Tyr Ser Ala Ser Tyr Ser Asp Pro Cys Ala Ile Gln Cys Pro	
100 105 110	
tac ctg gga tgc cag tcg tgg aca tgc ccc tat acg ggc ccgt gtgt tcc	384
Tyr Leu Gly Cys Gln Ser Trp Thr Cys Pro Tyr Thr Gly Pro Val Ser	
115 120 125	
agt ccg cat tgg aga tac acc tat gat ctt aac ttt acc cag gag gta	432
Ser Pro His Trp Arg Tyr Thr Tyr Asp Leu Asn Phe Thr Gln Glu Val	
130 135 140	

tca tcc gtc tcc tta cac ttg cat ttc tcc aaa tgc gga tcc tcg ttc	480
Ser Ser Val Ser Leu His Leu His Phe Ser Lys Cys Gly Ser Ser Phe	
145 150 155 160	
tcc ttt cta cta gac gca cca gga tat gac cca gtg tgg ttc ctc tcc	528
Ser Phe Leu Leu Asp Ala Pro Gly Tyr Asp Pro Val Trp Phe Leu Ser	
165 170 175	
tcc cag gcc aca cag gct cca ccc aca cct gcc cct ctc ata cgg gac	576
Ser Gln Ala Thr Gln Ala Pro Pro Thr Pro Ala Pro Leu Ile Arg Asp	
180 185 190	
tca gat ctc cag tac att cta gaa ccg ccc att ccg tgg agc tct aag	624
Ser Asp Leu Gln Tyr Ile Leu Glu Pro Pro Ile Pro Trp Ser Ser Lys	
195 200 205	
att ctt aac ctt atc ctc ctc acc cta aaa agc act aac tat tct tgc	672
Ile Leu Asn Leu Ile Leu Thr Leu Lys Ser Thr Asn Tyr Ser Cys	
210 215 220	
atg gtc tgt gtt gac cgc tcc agc cta tcc tca tgg cat gtc ctg tat	720
Met Val Cys Val Asp Arg Ser Ser Leu Ser Ser Trp His Val Leu Tyr	
225 230 235 240	
gga ccc act caa gtc ccc agt cca ccc gac ccc caa gcc cgg tct atc	768
Gly Pro Thr Gln Val Pro Ser Pro Pro Asp Pro Gln Ala Arg Ser Ile	
245 250 255	
ctg cga cct gcc tta gct att ccc gcc agt aat atc acc ccc ccg ttt	816
Leu Arg Pro Ala Leu Ala Ile Pro Ala Ser Asn Ile Thr Pro Pro Phe	
260 265 270	
cct tgg acc cat tgc tat cgc cct cct ccg caa gcc atc tcc tcg gag	864
Pro Trp Thr His Cys Tyr Arg Pro Pro Pro Gln Ala Ile Ser Ser Glu	
275 280 285	
aat tgt aac aac tct gta gtg ctg ccc ccc ttt tct ctg tct cca att	912
Asn Cys Asn Asn Ser Val Val Leu Pro Pro Phe Ser Leu Ser Pro Ile	
290 295 300	
cct aac gtc tcc aga ccc	930
Pro Asn Val Ser Arg Pro	
305 310	

<210> 12
 <211> 310
 <212> PRT
 <213> Simian T-cell lymphotropic virus type 3

<400> 12
 Met Gly Lys Phe Gly Leu Tyr Cys Leu Val His Leu Tyr Ile Leu Leu
 1 5 10 15
 Pro Ala Ser Ser Gly Asn Pro Ser Arg Cys Thr Leu Phe Ile Gly Ala
 20 25 30

Ser Ser Tyr His Ser Ser Pro Cys Gly Ser Ser Leu Pro Arg Cys Thr
 35 40 45

Trp Asn Leu Asp Leu Phe Ser Leu Thr Lys Asp Gln Ser Leu Ser Pro
 50 55 60

Pro Cys Pro Asp Leu Ile Thr Tyr Ser Gln Tyr His Lys Pro Tyr Ser
 65 70 75 80

Leu Tyr Val Phe Pro His Trp Ile Thr Lys Pro Asn Arg Arg Gly Leu
 85 90 95

Gly Tyr Tyr Ser Ala Ser Tyr Ser Asp Pro Cys Ala Ile Gln Cys Pro
 100 105 110

Tyr Leu Gly Cys Gln Ser Trp Thr Cys Pro Tyr Thr Gly Pro Val Ser
 115 120 125

Ser Pro His Trp Arg Tyr Thr Tyr Asp Leu Asn Phe Thr Gln Glu Val
 130 135 140

Ser Ser Val Ser Leu His Leu His Phe Ser Lys Cys Gly Ser Ser Phe
 145 150 155 160

Ser Phe Leu Leu Asp Ala Pro Gly Tyr Asp Pro Val Trp Phe Leu Ser
 165 170 175

Ser Gln Ala Thr Gln Ala Pro Pro Thr Pro Ala Pro Leu Ile Arg Asp
 180 185 190

Ser Asp Leu Gln Tyr Ile Leu Glu Pro Pro Ile Pro Trp Ser Ser Lys
 195 200 205

Ile Leu Asn Leu Ile Leu Leu Thr Leu Lys Ser Thr Asn Tyr Ser Cys
 210 215 220

Met Val Cys Val Asp Arg Ser Ser Leu Ser Ser Trp His Val Leu Tyr
 225 230 235 240

Gly Pro Thr Gln Val Pro Ser Pro Pro Asp Pro Gln Ala Arg Ser Ile
 245 250 255

Leu Arg Pro Ala Leu Ala Ile Pro Ala Ser Asn Ile Thr Pro Pro Phe
 260 265 270

Pro Trp Thr His Cys Tyr Arg Pro Pro Pro Gln Ala Ile Ser Ser Glu
 275 280 285

Asn Cys Asn Asn Ser Val Val Leu Pro Pro Phe Ser Leu Ser Pro Ile
 290 295 300

Pro Asn Val Ser Arg Pro
 305 310

<210> 13
 <211> 153
 <212> DNA
 <213> Human T-cell lymphotropic virus type 1

<220>
 <221> CDS
 <222> (1)..(153)

<400> 13

att	aaa	aag	cca	aac	cca	aat	ggc	gga	ggc	tat	tat	tat	tta	gcc	tct	tat		48
Ile	Lys	Lys	Pro	Asn	Pro	Asn	Gly	Gly	Gly	Tyr	Tyr	Tyr	Leu	Ala	Ser	Tyr		
1							5			10						15		

tca gac cct tgt tcc tta aaa tgc cca tac ctg ggg tgc caa tca tgg

Ser	Asp	Pro	Cys	Ser	Leu	Lys	Cys	Pro	Tyr	Leu	Gly	Cys	Gln	Ser	Trp		96
20								25						30			

acc tgc ccc tat aca gga gcc gtc tcc agc ccc tac tgg aag ttt cag

Thr	Cys	Pro	Tyr	Thr	Gly	Ala	Val	Ser	Ser	Pro	Tyr	Trp	Lys	Phe	Gln		144
35							40					45					

caa gat gtc

Gln	Asp	Val														153
50																

<210> 14
 <211> 51
 <212> PRT
 <213> Human T-cell lymphotropic virus type 1

<400> 14

Ile	Lys	Lys	Pro	Asn	Pro	Asn	Gly	Gly	Gly	Tyr	Tyr	Tyr	Leu	Ala	Ser	Tyr		48
1							5			10						15		

Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp

20							25						30				
----	--	--	--	--	--	--	----	--	--	--	--	--	----	--	--	--	--

Thr Cys Pro Tyr Thr Gly Ala Val Ser Ser Pro Tyr Trp Lys Phe Gln

35							40					45				
----	--	--	--	--	--	--	----	--	--	--	--	----	--	--	--	--

Gln Asp Val

50																
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<210> 15
 <211> 153
 <212> DNA
 <213> Human T-cell lymphotropic virus type 1

<220>
 <221> CDS
 <222> (1)..(153)

<400> 15
 gtt aaa aag cca aac cga aat ggc gga ggc tat tat tta gcc tct tat 48
 Val Lys Lys Pro Asn Arg Asn Gly Gly Tyr Tyr Leu Ala Ser Tyr
 1 5 10 15

tca gac cct tgt tcc tta aaa tgc cca tac ctg ggg tgc caa tca tgg 96
 Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp
 20 25 30

acc tgc ccc tat aca gga gcc gtc tcc agc ccc tac tgg aag ttt cag 144
 Thr Cys Pro Tyr Thr Gly Ala Val Ser Ser Pro Tyr Trp Lys Phe Gln
 35 40 45

caa gat gtc 153
 Gln Asp Val
 50

<210> 16
 <211> 51
 <212> PRT
 <213> Human T-cell lymphotropic virus type 1

<400> 16
 Val Lys Lys Pro Asn Arg Asn Gly Gly Tyr Tyr Leu Ala Ser Tyr 48
 1 5 10 15

Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp
 20 25 30

Thr Cys Pro Tyr Thr Gly Ala Val Ser Ser Pro Tyr Trp Lys Phe Gln
 35 40 45

Gln Asp Val
 50

<210> 17
 <211> 153
 <212> DNA
 <213> Human T-cell lymphotropic virus type 1

<220>
 <221> CDS
 <222> (1)..(153)

<400> 17
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 Ile Lys Lys Pro Asn Arg Asn Gly Gly Tyr Tyr Leu Ala Ser Tyr
 1 5 10 15

tca gac cct tgt tcc tta aaa tgc cca tac ctg ggg tgc caa tca tgg 96
 Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp
 20 25 30

acc tgc ccc tat aca gga gcc gtc tcc agc ccc tac tgg aag ttt caa 144
 Thr Cys Pro Tyr Thr Gly Ala Val Ser Ser Pro Tyr Trp Lys Phe Gln
 35 40 45

 caa gat gtc 153
 Gln Asp Val
 50

<210> 18
 <211> 51
 <212> PRT
 <213> Human T-cell lymphotropic virus type 1

<400> 18
 Ile Lys Lys Pro Asn Arg Asn Gly Gly Gly Tyr Tyr Leu Ala Ser Tyr 15
 1 5 10 15

 Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp 30
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Thr Cys Pro Tyr Thr Gly Ala Val Ser Ser Pro Tyr Trp Lys Phe Gln 45
 35 40 45

Gln Asp Val
 50

<210> 19
 <211> 153
 <212> DNA
 <213> Human T-cell lymphotropic virus type 1

<220>
 <221> CDS
 <222> (1)..(153)

<400> 19 48
 att aaa aag cca aac cga aat ggc gga ggc tat tat tta gcc tct tat
 Ile Lys Lys Pro Asn Arg Asn Gly Gly Gly Tyr Tyr Leu Ala Ser Tyr
 1 5 10 15

tca gac cct tgt tcc tta aaa tgc cca tac ctg ggg tgc caa tca tgg 96
 Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp
 20 25 30

acc tgc ccc tat aca gga ccc gtc tcc agc ccc tac tgg aag ttt cag 144
 Thr Cys Pro Tyr Thr Gly Pro Val Ser Ser Pro Tyr Trp Lys Phe Gln
 35 40 45

caa gat gtc 153
 Gln Asp Val
 50

<210> 20
 <211> 51
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 <213> Human T-cell lymphotropic virus type 1

<400> 20
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 1 5 10 15

Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp
 20 25 30

Thr Cys Pro Tyr Thr Gly Pro Val Ser Ser Pro Tyr Trp Lys Phe Gln
 35 40 45

Gln Asp Val
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<210> 21
 <211> 171
 <212> DNA
 <213> Human T-cell lymphotropic virus type 1

<220>
 <221> CDS
 <222> (1)..(171)

<400> 21
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 Ile Lys Lys Pro Asn Arg Asn Gly Gly Tyr His Ser Ala Ser Tyr
 1 5 10 15

tca gac cct tgt tcc tta aag tgc cca tac ctg ggg tgc caa tca tgg 96
 Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp
 20 25 30

acc tgc ccc tat gca gga gcc gtc tcc agc ccc tac tgg aag ttt cag 144
 Thr Cys Pro Tyr Ala Gly Ala Val Ser Ser Pro Tyr Trp Lys Phe Gln
 35 40 45

caa gat gtc aat ttt acc cag gaa gta
 Gln Asp Val Asn Phe Thr Gln Glu Val
 50 55

<210> 22
 <211> 57
 <212> PRT
 <213> Human T-cell lymphotropic virus type 1

<400> 22
 Ile Lys Lys Pro Asn Arg Asn Gly Gly Gly Tyr His Ser Ala Ser Tyr
 1 5 10 15

Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp
 20 25 30

Thr Cys Pro Tyr Ala Gly Ala Val Ser Ser Pro Tyr Trp Lys Phe Gln
 35 40 45

Gln Asp Val Asn Phe Thr Gln Glu Val
 50 55

<210> 23
 <211> 153
 <212> DNA
 <213> Human T-cell lymphotropic virus type 2

<220>
 <221> CDS
 <222> (1)..(153)

<400> 23
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 Ile Arg Lys Pro Asn Arg Gln Gly Leu Gly Tyr Tyr Ser Pro Ser Tyr
 1 5 10 15

aat gac cct tgc tcg cta caa tgc ccc tac ttg ggc tcc caa tca tgg 96
 Asn Asp Pro Cys Ser Leu Gln Cys Pro Tyr Leu Gly Ser Gln Ser Trp
 20 25 30

aca tgc cca tac acg gcc ccc gtc tcc act cca tcc tgg aat ttt cat 144
 Thr Cys Pro Tyr Thr Ala Pro Val Ser Thr Pro Ser Trp Asn Phe His
 35 40 45

tca gat gta 153
 Ser Asp Val
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<210> 24
 <211> 51
 <212> PRT
 <213> Human T-cell lymphotropic virus type 2

<400> 24
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 1 5 10 15

Asn Asp Pro Cys Ser Leu Gln Cys Pro Tyr Leu Gly Ser Gln Ser Trp
 20 25 30

Thr Cys Pro Tyr Thr Ala Pro Val Ser Thr Pro Ser Trp Asn Phe His
 35 40 45

Ser Asp Val
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<210> 25
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 25
Asn Ala Pro Gln Lys Val Ile Glu Glu Phe Tyr
1 5 10

<210> 26
<211> 22
<212> PRT
<213> Homo sapiens

<400> 26
Asn Gln Thr Trp Val His Arg Tyr Gly Glu Ser Ile Leu Pro Thr Thr
1 5 10 15
Leu Thr Thr Leu Trp Ser
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<210> 27
<211> 10
<212> PRT
<213> Homo sapiens

<400> 27
Lys Ser Phe Glu Met Leu Ile Leu Gly Arg
1 5 10

<210> 28
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<212> PRT
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<400> 28
Asp Ser Ile Met Gly Asn Lys Asp Leu
1 5

<210> 29
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<212> PRT
<213> Homo sapiens

<400> 29
Tyr Ser Thr Ser Ile Phe Glu Lys Ala Gly Val Gln Gln Pro
1 5 10

<210> 30
<211> 10
<212> PRT
<213> Homo sapiens

<400> 30
Glu Gln Leu Pro Trp Met Ser Tyr Leu Ser
1 5 10

<210> 31
<211> 7
<212> PRT
<213> Homo sapiens

<400> 31
Gln Tyr Val Glu Gln Leu Cys
1 5

<210> 32
<211> 13
<212> PRT
<213> Homo sapiens

<400> 32
Ile Val Gly Met Cys Phe Gln Tyr Val Glu Gln Leu Cys
1 5 10